REMARKS

Claims 1-4 are currently pending. Claim 4 has been withdrawn. Claim 2 has been canceled, and Claims 5-21 have been added. Applicants respectfully request reexamination and reconsideration of the pending claims in view of the following remarks.

Claim Rejections – 35 U.S.C. § 112

The Examiner rejected Claims 1-3 under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner indicates that Claims 1 and 3 are indefinite because "the material" lacks antecedent basis.

Applicant has amended Claims 1 and 3 to address this rejection. Accordingly, Applicant respectfully requests that the Examiner withdraw this rejection.

Double Patenting

The Examiner rejected Claims 1-3 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-4 of U.S. Patent No. 7,186,986.

A nonstatutory obviousness-type double patenting rejection requires that the present application be commonly assigned/owned with the owner of U.S. Patent No. 7,186,986 or be subject to a joint research agreement as set forth in 35 U.S.C. § 103(c)(2) and (3) pursuant to the CREATE Act.

Applicant asserts that this double patenting rejection is improper because the present application is not commonly assigned/owned with the owner of U.S. Patent No. 7,186,986, nor is the present application subject to a joint research agreement pursuant to the CREATE Act.

Claim Rejections – 35 U.S.C. § 102

The Examiner rejected Claims 1 and 3 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 7,186,986 ("Hinderer").

Hinderer does not disclose the subject matter of amended independent Claim 1. More specifically, Hinderer does not disclose an imaging system including detection means detecting negatively and positively charged high-energetic particles liberated into the detector volumes to provide for substantially independent signals, where the detection means includes amorphous selenium. The Examiner also indicated that Hinderer lacks "an inclusion of amorphous selenium for the detector." Office action, page 6.

Hinderer also does not render Claim 1 obvious. The Examiner indicates that "selecting a known available material for making/forming a detection component/element in order to provide a more reasonable cost of making the component/element would have been obvious to one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hinderer et al accordingly in order to provide a suitable type of the detector for the desired detection performance." Office action, page 6.

Applicant respectfully disagrees. Conventionally, amorphous selenium has only been used in flat panel detectors, which use photodiodes to read the photons from a kV X-ray beam. If the X-ray beam were MV, most of the beam would pass through the detector without detection. In addition, the MV radiation would damage the photodiodes. To make this configuration work with MV X-rays, the amorphous selenium layer in a flat panel detector would need to be very thick to have a conversion efficiency even close to what is necessary. However, a very thick layer of amorphous selenium cannot be done, so amorphous selenium does not work for MV X-ray detection in flat panel detector technology.

In addition, it would not be obvious to include amorphous selenium in the detector assembly of Hinderer because Hinderer utilizes tungsten plates that convert photons to electrons and act as a signal collector. Therefore, the conversion of the photons to electrons must occur in the tungsten plates. The electrons then enter the inert gas (no photon conversion occurs in gas) and interact with the gas molecules to produce a cascade of lower energy electrons.

In contrast, a detector that includes amorphous selenium operates significantly different than the Hinderer detector. A detector that utilizes amorphous selenium may utilize a separate high voltage electrode layer. In operation, the amorphous selenium does the conversion of photons to electrons and is the charge generator. The conversion occurs within the amorphous selenium layer, but the high voltage electrode layer is the signal collector.

For at least these reasons, Hinderer does not teach or suggest the subject matter of Claim 1. Accordingly, independent Claim 1 is allowable. Claims 5-14 depend from Claim 1, and are allowable for at least the reason Claim 1 is allowable.

Hinderer does not disclose the subject matter of independent Claim 3 for at least the reasons discussed above with respect to the Claim 1. Claims 15-21 depend from Claim 3, and are allowable for at least the reasons Claim 3 is allowable.

Claim Rejections – 35 U.S.C. § 103

The Examiner rejected Claim 2 under 35 U.S.C. § 103 as being obvious over Hinderer. Claim 2 has been canceled. Therefore, this rejection of Claim 2 is moot.

CONCLUSION

In view of the foregoing, entry of this Amendment and allowance of Claims 1 and 3-21 are respectfully requested. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,

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